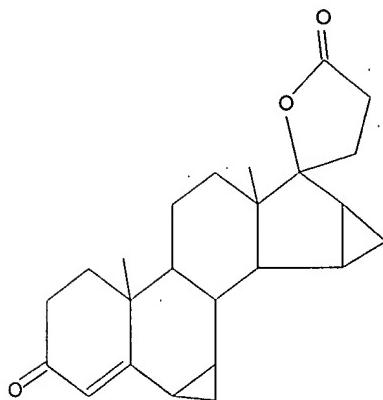


L1 HAS NO ANSWERS

L1

STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 exa full

FULL SEARCH INITIATED 15:21:22 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 63 TO ITERATE

100.0% PROCESSED 63 ITERATIONS  
SEARCH TIME: 00.00.01

5 ANSWERS

L2 5 SEA EXA FUL L1

=> d l2 1-5 abs ibib hitstr

'ABS' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'  
'IBIB' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'  
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG	- RN
SAM	- Index Name, MF, and structure - no RN
FIDE	- All substance data, except sequence data
IDE	- FIDE, but only 50 names
SQIDE	- IDE, plus sequence data
SQIDE3	- Same as SQIDE, but 3-letter amino acid codes are used
SQD	- Protein sequence data, includes RN
SQD3	- Same as SQD, but 3-letter amino acid codes are used
SQN	- Protein sequence name information, includes RN

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract

APPS -- Application and Priority Information  
BIB -- CA Accession Number, plus Bibliographic Data  
CAN -- CA Accession Number  
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)  
IND -- Index Data  
IPC -- International Patent Classification  
PATS -- PI, SO  
STD -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels  
IBIB -- BIB, indented, with text labels  
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)  
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations  
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

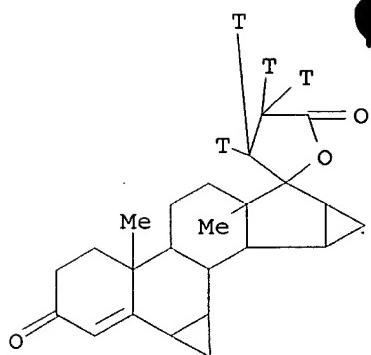
For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.  
HELP FORMATS -- To see detailed descriptions of the predefined formats.  
ENTER DISPLAY FORMAT (IDE):iall

L2 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2000 ACS  
RN 102974-48-1 REGISTRY  
CN Spiro[17H-dicyclopenta[6,7:15,16]cyclopenta[a]phenanthrene-17,2' (5'H)-furan]-3,5'(2H)-dione-4',5'-t2,1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-3',4'-t2-10,13-dimethyl-[6R-(6.alpha.,7.alpha.,8.beta.,9.a  
lpha.,10.beta.,13.beta.,14.alpha.,15.alpha.,16.alpha.,17.beta.)]- (9CI)  
(CA INDEX NAME)  
MF C24 H26 O3 T4  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

#### Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Ring Identifier	RID Occurrence
EA	ES	SZ	RF	RID	Count
C3-C3-C4O-C5-	C3-C3-OC4-C5-	3-3-5-5-6-6-	C220	21803.1.1	1
C6-C6-C6	C6-C6-C6	6			



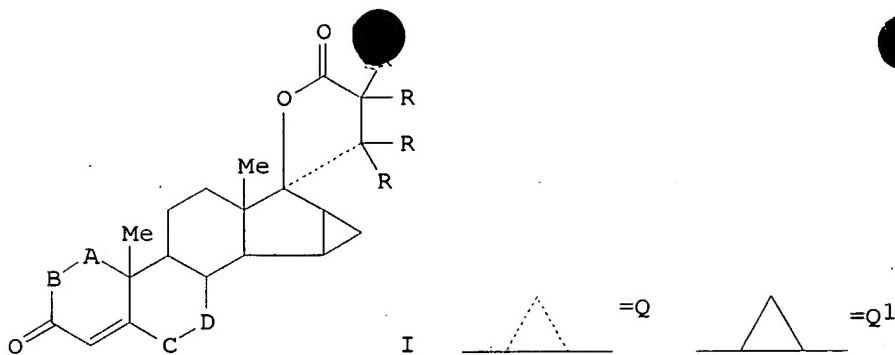
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1

ACCESSION NUMBER: 105:43156 CA  
 TITLE: Multiply tritiated steroid-20,17-spirolactones and their use as tracer substances  
 INVENTOR(S): Schulze, Paul Eberhard; Nickisch, Klaus; Laurent, Henry; Pollow, Kunhard  
 PATENT ASSIGNEE(S): Schering A.-G. , Fed. Rep. Ger.  
 SOURCE: Ger. Offen., 15 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 INT. PATENT CLASSIF.:  
   MAIN: C07J021-00  
   SECONDARY: A61K049-00  
 CLASSIFICATION: 32-5 (Steroids)  
 Section cross-reference(s): 1  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3414508	A1	19851024	DE 1984-3414508	19840413
EP 158365	A2	19851016	EP 1985-104470	19850412
EP 158365	A3	19860910		
EP 158365	B1	19890913		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AU 8541098	A1	19851017	AU 1985-41098	19850412
AU 589120	B2	19891005		
JP 61005094	A2	19860110	JP 1985-76857	19850412
AT 46312	E	19890915	AT 1985-104470	19850412
US 4904462	A	19900227	US 1985-722255	19850412
PRIORITY APPLN. INFO.:			DE 1984-3414508	19840413
			EP 1985-104470	19850412

GRAPHIC IMAGE:



**ABSTRACT:**

Spirolactones I [AB = CH<sub>2</sub>CH<sub>2</sub>, CH:CH, Q; CD = Q<sub>1</sub>, CH<sub>2</sub>CHCO<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>CR<sub>3</sub>; R = H, T; n = 0, 1], useful as tracer substances for mineralocorticoids, were prep'd. 17.alpha.- (3-Hydroxy-1-propynyl)-6.beta.,7.beta.:15.beta.,16.beta.-dimethylene-5.beta.-androstane-3.beta.,5,17.beta.-triol was tritiated with <sup>3</sup>H<sub>2</sub> over Pd/CaCO<sub>3</sub> to give 17.alpha.- (3-hydroxypropyl-2,2,3,3-t4)-6.beta.,7.beta.:15.beta.,16.beta.-dimethylene-5.beta.-androstane-3.beta.,5,17.beta.-triol, which was treated with pyridinium dichromate to give 6.beta.,7.beta.:15.beta.,16.beta.-dimethylene-3-oxo-17.alpha.-pregn-4-ene-18,18,19,19-t4 20,17-carbolactone. This was dehydrogenated to the corresponding pregn-1,4-diene (II) with dichlorodicyanobenzoquinone. II had a relative bonding affinity of 90 for mineralocorticoid receptor, compared to 100 for aldosterone. Bonding affinities of selected I for glucocorticoid and progesterone receptor as well as serum-CBG were tabulated.

**SUPPL. TERM:** pregnene spirolactone tritiated mineralocorticoid receptor tracer; glucocorticoid receptor tracer tritiated pregnene spirolactone; progesterone receptor tracer tritiated pregnene spirolactone

**INDEX TERM:** Receptors  
ROLE: RCT (Reactant)  
(for mineralocorticoids, glucocorticoids, and progesterone, tritiated pregnene spirolactones as tracers for)

**INDEX TERM:** Steroids, preparation  
ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(prep'n. of tritiated pregnene spirolactone derivs., as receptor tracers)

**INDEX TERM:** Isotope indicators  
(tritiated pregnene spirolactones, for mineralo- and glucocorticosteroid and progesterone receptors)

**INDEX TERM:** Corticosteroids, biological studies  
ROLE: BIOL (Biological study)  
(gluco-, tritiated pregnene spirolactones as tracers for receptors of)

**INDEX TERM:** Corticosteroids, biological studies  
ROLE: BIOL (Biological study)  
(mineralo-, tritiated pregnene spirolactones as tracers for receptors of)

**INDEX TERM:** 50630-93-8  
ROLE: RCT (Reactant)  
(methylation by, of carboxypregnene derivs.)

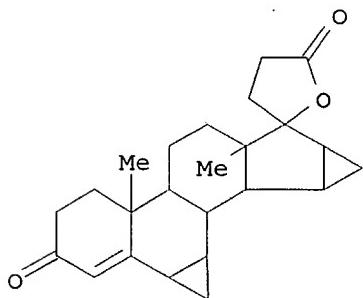
**INDEX TERM:** 102974-48-1P  
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prep'n. and dehydrogenation of)

INDEX TERM: 102974-47-0P  
 ROLE: (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
 (prep. and oxidn. of)  
 INDEX TERM: 102974-53-8P  
 ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
 (prep. and oxidn.-cyclization of)  
 INDEX TERM: 102974-46-9P  
 ROLE: SPN (Synthetic preparation); PREP (Preparation)  
 (prep. of)  
 INDEX TERM: 102974-49-2P 102974-51-6P 102974-54-9P 102974-55-0P  
 102974-56-1P 102988-43-2P  
 ROLE: SPN (Synthetic preparation); PREP (Preparation)  
 (prep. of, as mineralocorticoid receptor tracer)  
 INDEX TERM: 57-83-0P, preparation  
 ROLE: PREP (Preparation)  
 (tritiated pregnene spirolactones as tracers for receptors of)  
 INDEX TERM: 10028-17-8, reactions  
 ROLE: RCT (Reactant)  
 (tritiation by, of (hydroxypropynyl)androstanetriol deriv.)  
 INDEX TERM: 82543-17-7 102974-52-7  
 ROLE: RCT (Reactant)  
 (tritiation of)  
 INDEX TERM: 84529-98-6 102974-50-5  
 ROLE: RCT (Reactant)  
 (tritriomethylation of)

L2 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2000 ACS  
 RN 93920-59-3 REGISTRY  
 CN Spiro[17H-dicyclopenta[6,7:15,16]cyclopenta[a]phenanthrene-17,2' (5'H)-furan]-3,5' (2H)-dione, 1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-10,13-dimethyl- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C24 H30 O3  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, USPATFULL  
 (\*File contains numerically searchable property data)

#### Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Ring Identifier	RID	Occurrence Count
EA	ES	SZ	RF	RID		
C3-C3-C4O-C5-	C3-C3-OC4-C5-	3-3-5-5-6-6-	C22O	21803.1.1	1	
C6-C6-C6	C6-C6-C6	16				



## REFERENCE 1

ACCESSION NUMBER: 102:24922 CA  
 TITLE: 3-(3-Oxo-4-unsaturated steroid-17.alpha.-yl)propionic acid lactones  
 INVENTOR(S): Junghans, Klaus  
 PATENT ASSIGNEE(S): Schering A.-G., Fed. Rep. Ger.  
 SOURCE: Ger. Offen., 12 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 INT. PATENT CLASSIF.: C07J021-00  
 CLASSIFICATION: 32-5 (Steroids)  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3306554	A1	19840823	DE 1983-3306554	19830222
EP 117507	A1	19840905	EP 1984-101780	19840221
EP 117507	B1	19871111		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 30728	E	19871115	AT 1984-101780	19840221
JP 59205398	A2	19841120	JP 1984-30491	19840222
JP 03069359	B4	19911031		
US 4507238	A	19850326	US 1984-582644	19840222
PRIORITY APPLN. INFO.:			DE 1983-3306554	19830222
			EP 1984-101780	19840221

GRAPHIC IMAGE: For diagram(s), see printed CA Issue.

## ABSTRACT:

Title lactones I ( $\text{Q} = \text{cyclopentaphenanthrene moieties}$ ) were prep'd. by hydrogenation-oxidn. of propargyl alcs. II. Thus, hydrogenation of androstenylpropargyl alc III in THF contg. Raney Ni and treatment of the reaction product with Jones reagent for 5 min at 0.degree. gave the lactone IV.

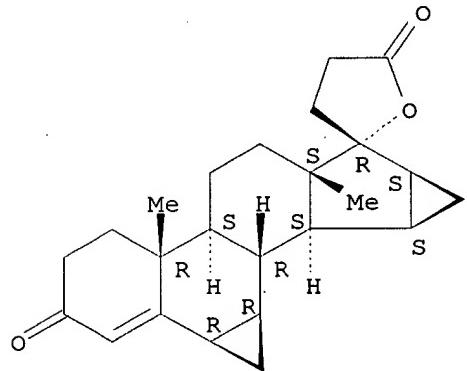
SUPPL. TERM:	propionic acid lactone steroidal; spirofuranone androstene
INDEX TERM:	Steroids, preparation
	ROLE: SPN (Synthetic preparation); PREP (Preparation) (prepn. of, of propionic acid lactones, by hydrogenation-oxidn. of hydroxy propargyl alc. derivs.)
INDEX TERM:	107-19-7
	ROLE: RCT (Reactant) (addn. reaction of, with methyleneandrostenedione)
INDEX TERM:	55542-26-2 82543-17-7
	ROLE: RCT (Reactant) (hydrogenation-oxidn. of, lactone from)
INDEX TERM:	82543-16-6
	ROLE: RCT (Reactant) (oxidn. of)
INDEX TERM:	93771-35-8P
	ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and addn. reaction of, with propargyl alc.)
INDEX TERM:	93771-34-7P
	ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and hydrogenation-oxidn. of)
INDEX TERM:	976-70-5P 93920-59-3P
	ROLE: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

RN 90457-65-1 REGISTRY  
 CN Spiro[17H-dicyclo[4.2.1]octa[6,7:15,16]cyclopenta[a]phenanthrene-17,2'-(5'H)-furan]-3,5'(2H)-dione, 1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-10,13-dimethyl-, [6R-(6.alpha.,7.alpha.,8.beta.,9.alpha.,10.beta.,13.alpha.,14.alpha.,15.alpha.,16.alpha.,17.alpha.)]- (9CI) (CA  
 INDEX  
 NAME)  
 FS STEREOSEARCH  
 MF C24 H30 O3  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, TOXLIT  
 (\*File contains numerically searchable property data)

Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Identifier	Ring RID	Occurrence Count
EA	ES	SZ	RF	RID	RID	Count
C3-C3-C4O-C5- C3-C3-OC4-C5- 3-3-5-5-6-6-	C22O			21803.1.1	1	
C6-C6-C6  C6-C6-C6	6					

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1

ACCESSION NUMBER: 102:215401 CA  
 TITLE: Structure-activity relationship of spironolactone derivates. Correlation of the affinity for rat renal mineralocorticoid receptors in vitro and the antialdosterone activity in the adrenalectomized rat in vivo  
 AUTHOR(S): Wambach, Gerhard; Casals-Stenzel, Jorge  
 CORPORATE SOURCE: Med. Klin. Koel-Merheim Med. Poliklin., Univ. Koelin, Cologne, Fed. Rep. Ger.  
 SOURCE: Adrenal Steroid Antagonism, Proc. - Satell. Workshop Int. Congr. Endocrinol. (1984), 291-313. Editor(s): Agarwal, Manjul K. de Gruyter: Berlin, Fed. Rep. Ger.  
 DOCUMENT TYPE: CODEN: 53KFAF  
 LANGUAGE: Conference  
 CLASSIFICATION: English  
 CLASSIFICATION: 2-3 (Mammalian Hormones)

**ABSTRACT:**

The ability of 17 steroids with structures similar to spironolactone [52-01-7] to compete with 3H-labeled aldosterone [52-39-1] for binding at rat renal cytoplasmic receptors in vitro and the antialdosterone activity in adrenalectomized rats in vivo were compared with that of spironolactone. Replacement of the 17-spirolactone ring by a 17.alpha.-hydroxypropyl group and a 17.beta.-hydroxyl group resulted in a loss of receptor affinity without a redn. in antialdosterone action in vivo. Compared to spironolactone, C6/C7 unsatd. compds. showed a reduced activity both in vitro and in vivo. Substitution of the 7.alpha.-thioacetyl group in the .beta.-position (prorenone [40574-52-5]) increased the in vivo as well as the in vitro activity by 41 and 52%, resp. Introduction of a Me group in the D-ring resulted in a similar redn. in activity both in vivo and in vitro. Spirorenone [74220-07-8] and 2 of its derivs. were 3-8 times more potent than spironolactone. Their receptor affinity was only slightly increased. Taken together, measuring the receptor affinity does not replace testing the in vivo antimineralcorticoid activity of new compds. Comparison between affinity for mineralocorticoid receptors and biol. activity however, provides insights into the metab. of potential antimineralcorticoids.

SUPPL. TERM: spironolactone deriv structure activity; mineralocorticoid receptor spironolactone deriv; antialdosterone spironolactone deriv

INDEX TERM: Receptors

ROLE: BIOL (Biological study)  
(for mineralocorticosteroids, spironolactone derivs.  
binding by, structure in relation to)

INDEX TERM: Kidney, composition  
(mineralocorticosteroid receptor of, spironolactone  
derivs. binding by)

INDEX TERM: Corticosteroids, biological studies

ROLE: BIOL (Biological study)  
(mineralo-, inhibitors of, spironolactone derivs. as,  
structure in relation to)

INDEX TERM: Molecular structure-biological activity relationship  
(mineralocorticosteroid receptor-binding, of  
spironolactone analogs)

INDEX TERM: Molecular structure-biological activity relationship  
(mineralocorticosteroid-antagonizing, of spironolactone  
analogs)

INDEX TERM: 52-01-7 976-71-6 40574-52-5 49848-01-3 65049-57-2  
65928-43-0 65928-46-3 67372-58-1 67392-87-4  
69651-50-9 74220-07-8 81826-19-9 81826-20-2  
81826-21-3 81830-36-6 86533-13-3 90376-21-9  
90457-65-1

ROLE: BIOL (Biological study)  
(antimineralocorticosteroid and mineralocorticosteroid  
receptor-binding activity of, structure in relation to)

INDEX TERM: 52-39-1

ROLE: BIOL (Biological study)  
(receptor binding of, in kidney, spironolactone derivs.  
effect on)

**REFERENCE 2**

ACCESSION NUMBER: 101:932 CA

TITLE: The renal action of spirorenone and other  
6.beta.,7.beta.; 15.beta.,16.beta.-dimethylene-17-  
spirolactones, a new type of steroidal aldosterone  
antagonists

AUTHOR(S): Casals-Stenzel, J.; Buse, M.; Wambach, G.; Losert, W.

CORPORATE SOURCE: Res. Lab., Schering A.-G., Berlin, D-1000/65, Fed.

SOURCE:

Rep. Ger.  
Arzneim.-Forsch. (1984), 34, 241-6  
CODEN: ARZNAD; ISSN: 0004-4172

DOCUMENT TYPE:

Journal

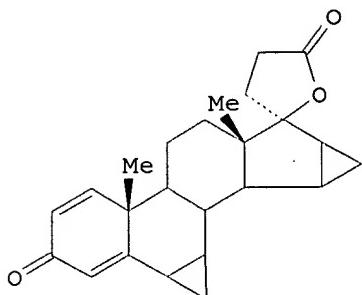
LANGUAGE:

English

CLASSIFICATION:

2-2 (Mammalian Hormones)

GRAPHIC IMAGE:



I

ABSTRACT:

Spirorenone (I) [74220-07-8] was 8.6-fold more potent than spironolactone [52-01-7] in its antialdosterone activity in adrenalectomized rats, as measured by the ability to antagonize the effects of i.v. aldosterone [52-39-1] on urinary mineral excretion. However, I had a lower in vitro affinity for the mineralocorticoid receptors of rat kidney. Three I derivs. exhibited antialdosterone activities between those of I and spironolactone, even though one showed a mineralocorticoid receptor affinity that was double that of spironolactone. A deriv. with a reversed configuration of the 17-spirolactone ring had no biol. activity in either test.

SUPPL. TERM: spirorenone aldosterone antagonist; spirolactone steroidal aldosterone antagonist

INDEX TERM: Receptors

ROLE: BIOL (Biological study)  
(for mineralocorticosteroids, spirorenone and spirenone derivs. binding by, aldosterone-antagonizing activity in relation to)

INDEX TERM: Resorption

(of potassium and sodium, aldosterone antagonists effect on)

INDEX TERM: Corticosteroids, biological studies

ROLE: BIOL (Biological study)  
(mineralo-, receptors for, spirorenone and spirorenone derivs binding by, aldosterone antagonist activity in relation to)

INDEX TERM: Molecular structure-biological activity relationship  
(mineralocorticosteroid-antagonizing, of spirorenones)

INDEX TERM: 67392-87-4 69651-50-9 74220-07-8 90376-21-9  
90457-65-1

ROLE: BIOL (Biological study)  
(aldosterone-antagonizing activity of, mineralocorticoid receptor affinity in relation to)

INDEX TERM: 52-01-7

ROLE: BIOL (Biological study)  
(aldosterone-antagonizing activity of, spirorenone and spirorenone derivs. in relation to)

INDEX TERM: 7440-09-7, biological studies 7440-23-5, biological studies

ROLE: BIOL (Biological study)  
(excretion of, aldosterone antagonists effect on)

INDEX TERM: 50-00-1  
 ROLE [REDACTED] (Biological study, unclassified); BIOL (Biological study)  
 (inhibitors, spiroorenone and spiroorenone derivs. as)

L2 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2000 ACS  
 RN 67392-87-4 REGISTRY  
 CN Spiro[17H-dicyclopenta[6,7:15,16]cyclopenta[a]phenanthrene-17,2' (5'H)-furan]-3,5' (2H)-dione, 1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-10,13-dimethyl-, (2'S,6R,7R,8R,9S,10R,13S,14S,15S,16S)-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Spiro[17H-dicyclopenta[6,7:15,16]cyclopenta[a]phenanthrene-17,2' (5'H)-furan]-3,5' (2H)-dione, 1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-10,13-dimethyl-, [6R-(6.alpha.,7.alpha.,8.beta.,9.alpha.,10.beta.,13.beta.,14.alpha.,15.alpha.,16.alpha.,17.beta.)]-

OTHER NAMES:

CN 1,2-Dihydrospiroorenone

CN 3-Oxo-6.beta.,7.beta.:15.beta.,16.beta.-dimethylene-17.alpha.-pregn-4-en-21,17-carbolactone

CN Dihydrospiroorenone

CN Dospirenone

CN ZK 30595

FS STEREOSEARCH

MF C24 H30 O3

CI COM

LC STN Files: ADISINSIGHT, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMLIST, CIN, DDFU, DRUGPAT, DRUGU, DRUGUPDATES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, PHAR, PROMT, RTECS\*, TOXLINE, TOXLIT, USAN, USPATFULL  
 (\*File contains numerically searchable property data)

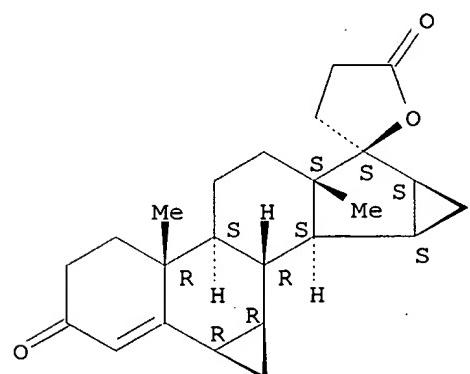
Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Ring Identifier	RID	Occurrence
EA	ES	SZ	RF	RID		Count
C3-C3-C4O-C5-	C3-C3-OC4-C5-	3-3-5-5-6-6-	C220	21803.1.1		1
C6-C6-C6	C6-C6-C6	16				

Absolute stereochemistry.



59 REFERENCES IN FILE CA (1967 TO DATE)

59 REFERENCES IN FILE CAPLUS (1967 TO DATE)

ACCESSION NUMBER: 133:276797 CA  
 TITLE: Low dose estrogen interrupted hormone replacement therapy  
 INVENTOR(S): Casper, Robert F.; Shangold, Gary A.; Ausmanas, Militza K.  
 PATENT ASSIGNEE(S): Jencap Research Ltd., Can.; Ortho-McNeil Pharmaceutical Inc.  
 SOURCE: PCT Int. Appl., 34 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 INT. PATENT CLASSIF.:  
 MAIN: A61P005-24  
 SECONDARY: A61K031-565  
 CLASSIFICATION: 2-4 (Mammalian Hormones)  
 Section cross-reference(s): 63  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 20000059577	A1	20001012	WO 2000-CA315	20000322
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 1999-126970 19990330

#### ABSTRACT:

A pharmaceutical prepn. for hormone replacement therapy comprises a plurality of daily doses for alternating a relatively dominant estrogenic activity phase comprising three daily doses of a substance exhibiting estrogenic activity equiv. to about 1 mg/day of 17.beta.-estradiol, and a relatively dominant progestogenic activity phase of a combination of a substance exhibiting estrogenic activity equiv. to about 1 mg/day of 17.beta.-estradiol and a substance exhibiting progestogenic activity equiv. to about 90 .mu.g/day of norgestimate. The active ingredients are compounded with the chosen carrier to

form tablets which are packaged in accordance with the chosen regimen. For example, the low-dose estrogen regimen of the present invention contg. 1 mg estradiol and 90 .mu.g norgestimate resulted in a mean decrease in the no. of hot flashes per day of 94.9% compared to baseline. The ref. or Kliogest regimen contg. 2 mg estradiol reduced hot flashes by a mean 92.8% and the 2 mg interrupted estradiol reduced hot flashes by 92.5%.

SUPPL. TERM: estrogen progestogen interrupted hormone replacement therapy

INDEX TERM: Globulins, biological studies

ROLE: BSU (Biological study, unclassified); BIOL (Biological study)  
 (SHBG (sex hormone-binding globulin), lack of affinity for; low-dose estrogen interrupted hormone replacement therapy with reduced risk of cancer)

INDEX TERM: Progesterone receptors

ROLE: BPR (Biological process); BIOL (Biological study); PROC (Process)  
 (binding to; low-dose estrogen interrupted hormone replacement therapy with reduced risk of cancer)

INDEX TERM: Hormone replacement therapy  
ROLE: ADV (Adverse effect, including toxicity); BAC  
INDEX TERM: Estrogens  
(Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(low-dose estrogen interrupted hormone replacement therapy with reduced risk of cancer)

INDEX TERM: Progestogens  
ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(low-dose estrogen interrupted hormone replacement therapy with reduced risk of cancer)

INDEX TERM: Androgen receptors  
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)  
(poor affinity for; low-dose estrogen interrupted replacement therapy with reduced risk of cancer)

INDEX TERM: Drug delivery systems  
Drug delivery systems  
(tablets; oral compns. contg. low-dose estrogen for interrupted hormone replacement therapy with reduced risk of cancer)

INDEX TERM: Desogestrel  
Desogestrel  
50-27-1, Estradiol 50-27-1D, Estriol, esters 50-28-2, 17.beta.-Estradiol, biological studies 50-28-2D, Estradiol, esters 53-16-7, Estrone, biological studies 57-63-6D, 17.alpha.-Ethinylestradiol, esters and ethers 68-23-5, Norethynodrel 71-58-9, Medroxyprogesterone acetate 72-33-3, Mestranol 152-43-2, Quinestrol 152-62-5, Dydrogesterone 302-22-7, Chlormadinone acetate 427-51-0, Cyproterone acetate 481-97-0, Estrone sulfate 595-33-5, Megestrol acetate 7280-37-7, Piperazine estrone sulfate 35189-28-7, Norgestimate 54024-22-5, 58691-88-6, Nomegestrol 60257-22-9 65928-58-7,

INDEX TERM: Dienogest  
Dienogest  
67392-87-4, Drospirenone 74513-62-5, Trimegestone  
ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(low-dose estrogen interrupted hormone replacement therapy with reduced risk of cancer)

REFERENCE COUNT: 10

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REFERENCE 2

ACCESSION NUMBER: 133:145031 CA  
TITLE: Inhibition of ovulation by a novel progestogen

AUTHOR(S): (drospirenone) alone or in combination with ethinylestradiol  
Rosenbaum, P.; Schmidt, W.; Heimerhorst, F. M.;  
Wuttke, W.; Rossmanith, W.; Freundl, F.; Thomas, K.;  
Grillo, M.; Wolf, A.; Heithecker, R.  
CORPORATE SOURCE: Universitätskliniken des Saarlandes, Frauenklinik und Poliklinik, Homburg, 66421, Germany  
SOURCE: Eur. J. Contracept. Reprod. Health Care (2000), 5(1), 16-24  
PUBLISHER: CODEN: ECRCFK; ISSN: 1362-5187  
Parthenon Publishing Group Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
CLASSIFICATION: 2-3 (Mammalian Hormones)

ABSTRACT:  
Studies were carried out to investigate ovulation inhibition with drospirenone, a novel progestogen that has a profile similar to natural progesterone, when given alone or in combination with ethinylestradiol. Hormonal parameters (LH, FSH, 17 beta-estradiol and progesterone) and peripheral parameters (cervical score, spinnbarkeit and crystn.), as well as follicle size assessed by ultrasonog., were measured in two groups of healthy women. Forty-eight women aged 19-35 yr were randomly assigned to receive 0.5 mg, 1.0 mg, 2.0 mg or 3.0 mg of drospirenone over a single treatment cycle, and 52 women aged 20-35 yr were randomized to receive either 2 mg drospirenone/30 .mu.g ethinylestradiol or 3 mg drospirenone/30 .mu.g ethinylestradiol over three treatment cycles. Baseline measurements were taken during a control pretreatment cycle.

Adequate ovarian suppression with drospirenone alone was evident at dose levels of 2 and 3 mg, and at 3 mg all subjects had anovulatory cycles. Although both combined preps. (2 mg and 3 mg drospirenone/30 .mu.g ethinylestradiol) inhibited the hypothalamic-pituitary-ovarian axis, follicular maturation leading to escape ovulation was obsd. in three subjects in the 2 mg drospirenone/30 .mu.g ethinylestradiol group. Only one of these ovulations was considered to be definitely the result of treatment failure. All cycles in the 3 mg drospirenone/30 .mu.g ethinylestradiol group were anovulatory. No statistically significant difference was found between treatment groups. The combination of 3 mg drospirenone/30 .mu.g ethinylestradiol (Yasmin, Schering AG) reliably inhibits ovulation, with a low frequency of follicular maturation, and provides a reasonable safety margin.

SUPPL. TERM: ovulation inhibition hormone drospirenone ethinylestradiol  
oral contraceptive  
INDEX TERM: Endocrine system  
(anterior pituitary-hypothalamus-ovary; ovulation inhibition and hormonal response to drospirenone alone  
or  
INDEX TERM: in combination with ethinylestradiol in women)  
Uterus  
(cervix; ovulation inhibition and hormonal response to drospirenone alone or in combination with ethinylestradiol in women)  
INDEX TERM: Ovary  
(follicle; ovulation inhibition and hormonal response to drospirenone alone or in combination with ethinylestradiol in women)  
INDEX TERM: Contraceptives  
(oral; ovulation inhibition and hormonal response to drospirenone alone or in combination with ethinylestradiol in women)  
INDEX TERM: Ovulation  
(ovulation inhibition and hormonal response to drospirenone alone or in combination with

INDEX TERM: 67-187-4, Drosiprenone 164017-3, Yasmin  
ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ovulation inhibition and hormonal response to drospirenone alone or in combination with ethinylestradiol in women)

INDEX TERM: 50-28-2, 17.beta.-Estradiol, biological studies 57-83-0, Progesterone, biological studies 9002-67-9, LH 9002-68-0, FSH  
ROLE: BPR (Biological process); BIOL (Biological study); PROC (Process) (ovulation inhibition and hormonal response to drospirenone alone or in combination with ethinylestradiol in women)

REFERENCE COUNT: 11  
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P452  
REFERENCE 3

ACCESSION NUMBER: 133:115266 CA  
TITLE: An open-label, multicenter study to evaluate Yasmin,  
a low-dose combination oral contraceptive containing  
drospirenone, a new progestogen  
AUTHOR(S): Parsey, K. S.; Pong, A.  
CORPORATE SOURCE: Berlex Laboratories, Montville, NJ, USA  
SOURCE: Contraception (2000), 61(2), 105-111  
CODEN: CCPTAY; ISSN: 0010-7824  
PUBLISHER: Elsevier Science Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
CLASSIFICATION: 2-3 (Mammalian Hormones)

ABSTRACT:  
This open-label, multicenter study evaluated the efficacy, safety, and cycle control of Yasmin, a new low-dose, monophasic oral contraceptive contg. the unique progestogen drospirenone (DRSP) 3 mg and ethinyl estradiol (EE) 30 .mu.g. DRSP is a synthetic progestogen that has antiandrogenic and antimineralcorticoid effects. In this study, 326 women were evaluated and 220 (67%) completed all 13 treatment cycles. The cor. Pearl Index was 0.407. Of the 151 subjects who experienced intermenstrual bleeding at any time during the study, the majority (64%) had bleeding during only one or two pill cycles. Breakthrough bleeding without spotting occurred in 1% of all cycles, spotting without breakthrough bleeding in 9.3% of all cycles, and breakthrough bleeding with spotting in 3% of all cycles. Amenorrhea was obsd. in 3% of all cycles. In all, 20 subjects (6%) discontinued participation in the study because of

adverse events. No serious adverse events related to the study drug were reported. No clin. significant changes in wt., blood pressure, or lipids were reported. The impact of the new progestogen DRSP on the women's self-perception of menstrual health was also evaluated. Subjects reported that

symptoms of water retention, neg. affect, and increased appetite significantly improved at cycle 6 from baseline. This study demonstrates that Yasmin is an effective oral contraceptive that is safe and well tolerated.

SUPPL. TERM: Yasmin drospirenone progestogen oral contraceptive  
INDEX TERM: Amenorrhea  
Appetite  
Blood pressure  
Body weight  
Hydration, physiological  
Menstrual disorder  
Ovarian cycle  
(Yasmin low-dose combination oral contraceptive contg.  
drospirenone efficacy, safety and cycle control in  
women)  
INDEX TERM: Lipids, biological studies  
ROLE: BPR (Biological process); BIOL (Biological study); PROC  
(Process)  
(blood; Yasmin low-dose combination oral contraceptive  
contg. drospirenone efficacy, safety and cycle control  
in  
women)  
INDEX TERM: Contraceptives  
(oral; Yasmin low-dose combination oral contraceptive  
contg. drospirenone efficacy, safety and cycle control  
in  
women)  
INDEX TERM: 67392-87-4, Drospirenone  
ROLE: BOC (Biological occurrence); BIOL (Biological study);  
OCCU (Occurrence)  
(Yasmin low-dose combination oral contraceptive contg.  
drospirenone efficacy, safety and cycle control in  
women)  
INDEX TERM: 164017-31-6, Ethinylestradiol-drospirenone mixt.  
ROLE: ADV (Adverse effect, including toxicity); BAC  
(Biological  
activity or effector, except adverse); THU (Therapeutic  
use); BIOL (Biological study); USES (Uses)  
(Yasmin; Yasmin low-dose combination oral contraceptive  
contg. drospirenone efficacy, safety and cycle control  
in  
women)  
INDEX TERM: 57-88-5, Cholest-5-en-3-ol (3. $\beta$ .)-, biological studies  
ROLE: BPR (Biological process); BIOL (Biological study); PROC  
(Process)  
(blood; Yasmin low-dose combination oral contraceptive  
contg. drospirenone efficacy, safety and cycle control  
in  
women)  
REFERENCE COUNT: 17  
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REFERENCE 4

ACCESSION NUMBER: 132:288794 CA  
 TITLE: Sympathetic nervous system activity-reducing agents  
 for treatment of disease- or age-related weight loss  
 and for enhancement of exercise performance  
 INVENTOR(S): Anker, Stefan Dietmar; Coats, Andrew Justin Stewart  
 PATENT ASSIGNEE(S): Imperial College Innovations Limited, UK  
 SOURCE: PCT Int. Appl., 72 pp.  
 CODEN: PIIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 INT. PATENT CLASSIF.:  
 MAIN: A61K031-00  
 CLASSIFICATION: 1-12 (Pharmacology)  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021509	A2	20000420	WO 1999-GB3302	19991015
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRIORITY APPLN. INFO.:			GB 1998-22458	19981015
			GB 1998-22459	19981015
			GB 1999-17181	19990723

ABSTRACT:

A method of treating wt. loss due to underlying disease in a patient, the method comprising administering to the patient an effective amt. of an agent which reduces sympathetic nervous system activity. A method of treating wt. loss due to underlying disease in a patient, the method comprising administering to the patient an effective amt. of any one or more of the following: a compd. which inhibits the effect of aldosterone such as an aldosterone antagonist; a chymase inhibitor; a cathepsin B inhibitor; a .beta. receptor blocker; an imidazoline receptor antagonist; a centrally acting .alpha. receptor antagonist; a peripherally acting .alpha. receptor antagonist; a ganglion blocking agent; a drug that has an effect on cardiovascular reflexes and thereby reduces SNS activity such as an opiate; scopolamine; an endothelin receptor antagonist; and a xanthine oxidase inhibitor. The methods are particularly useful in treating cardiac cachexia. The sympathetic nervous system activity-reducing agents may also be used to treat wt. loss due to aging and to enhance exercise performance.

SUPPL. TERM: sympathetic agent disease related wt loss; age related wt loss sympathetic agent; exercise performance cardiac cachexia sympathetic agent  
 INDEX TERM: Anabolic agents  
 (anabolic growth factors; sympathetic nervous system

INDEX TERM: Activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Angiotensin receptor antagonists  
(angiotensin II; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Endothelin receptors

INDEX TERM: Imidazoline receptors

ROLE: BSU (Biological study, unclassified); BIOL (Biological study)  
(antagonists; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Reflex  
(cardiovascular; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Lung, disease  
(chronic obstructive; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Infection  
(chronic; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Muscle  
(elec. stimulation of; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Peptides, biological studies

ROLE: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(epoxysuccinyl; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Heart, disease

INDEX TERM: Kidney, disease  
(failure, chronic; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Nervous system agents  
(ganglionic blocking agents; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Body weight  
(loss; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: AIDS (disease)

INDEX TERM: Aging, animal

INDEX TERM: Cachexia

INDEX TERM: Cirrhosis

INDEX TERM: Disease, animal

INDEX TERM: Emphysema

INDEX TERM: Exercise

INDEX TERM: Heart, disease  
Hypertension  
Malnutrition  
Neoplasm  
Nervous system agents  
(sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Opioids  
ROLE: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Nervous system  
(sympathetic; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Tumor necrosis factors  
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)  
(.alpha., antagonists; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Adrenoceptor antagonists  
(.alpha.-; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: Adrenoceptor antagonists  
(.beta.-; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: 180384-56-9, Ro 61-1790  
ROLE: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(Ro 61-1790; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

activity-reducing  
INDEX TERM: 188307-16-6, T 0201  
ROLE: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(T 0201; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: 52-39-1, Aldosterone  
ROLE: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)  
(and aldosterone antagonists; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM: 9002-17-9, Xanthine oxidase 9004-08-4, Cathepsin  
9015-82-1, Angiotensin-converting enzyme 9047-22-7,  
Cathepsin B 97501-92-3, Chymase  
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)  
(inhibitors; sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

activity-reducing  
INDEX TERM: agents for treatment of disease- or age-related wt. loss

INDEX TERM:

(d for enhancement of exercise performance)  
90-72-6, Growth hormone 67763-9, IGF-1  
ROLE: BAC (Biological activity or effector, except adverse);  
BUU (Biological use, unclassified); BIOL (Biological study);

USES (Uses)

(sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM:

51-34-3, Scopolamine 52-01-7, Spironolactone 52-01-7D, Spironolactone, 15,16-methylene derivs. 57-27-2,

Morphine,

biological studies 60-26-4, Hexamethonium 60-30-0, Azamethonium 60-40-2, Mecamylamine 68-91-7 71-91-0, Tetraethylammonium bromide 100-33-4, Pentamidine 119-44-8, Xanthopterin 125-28-0, Dihydrocodeine 144-44-5, Pentolinium 315-30-0, Allopurinol 382-82-1 492-11-5, Leukopterin 497-23-4, 2(5H)-Furanone

525-66-6,

Propranolol 546-48-5, Synapleg 555-30-6, alpha.-Methyldopa 561-27-3, Diamorphine 968-93-4, Testolactone 971-60-8, Benzohexonium 1218-98-0, 7,8-Dihydronoopterin 2009-64-5, Neopterin 2365-25-5, Pentamethonium 2465-59-0, Oxyurinol 3613-69-2, Cypenam 3930-20-9, Sotalol 4138-96-9 4205-90-7, Clonidine 4844-10-4, Hexafluorenium 5472-41-3, 4-Amino-6-hydroxypyrazolo[3,4-d]pyrimidine 6452-71-7, Oxprenolol 7187-66-8, Trimetaphan 9087-70-1, Aprotinin 11096-26-7, Erythropoietin 13523-86-9, Pindolol 13655-52-2, Alprenolol 17528-72-2 19216-56-9, Prazosin

22150-76-1,

Biopterin 22664-55-7, Metipranolol 26839-75-8, Timolol 29122-68-7, Atenolol 36894-69-6 37517-30-9, Acebutolol 38363-40-5, Penbutolol 42200-33-9, Nadolol 47141-42-4, Levobunolol 51384-51-1, Metoprolol 51781-06-7,

Carteolol

52485-79-7, Buprenorphine 54187-04-1, Rilmenidine 56980-93-9, Celiprolol 63590-64-7, Terazosin

63659-18-7,

Betaxolol 66376-36-1, Alendronate 66722-44-9 67392-87-4, Dihydrospiroorenone 71119-11-4, Bucindolol 72956-09-3, Carvedilol 74191-85-8, Doxazosin

74220-07-8,

Spiroorenone 75438-57-2, Moxonidine 76676-33-0, RU26752 76684-89-4, E 64c 81147-92-4, Esmolol 86102-31-0,

Tissue

inhibitor of matrix metalloproteinase 87952-98-5, Mespirenone 91448-99-6, Cystatin C 93519-21-2 95847-70-4, Ipsapirone 107544-29-6, Stefin A 107724-20-9, Eplerenone 118457-14-0, Nebivolol 134448-10-5, CA-074 136553-74-7, WS 7338B 136553-81-6, BQ123 144602-02-8, IRL 1038 145380-08-1, RU40555 151039-33-7, PD 142893 156161-89-6, BQ-788 157659-79-5, SB 209670 162412-70-6, PD 156707 171714-84-4, LU135252 173189-01-0, IRL 3461 173937-91-2, ABT-627 193969-54-9, S-0139 204326-22-7, PD 164333 223756-43-2, A-216546 264276-89-3

ROLE: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(sympathetic nervous system activity-reducing agents for treatment of disease- or age-related wt. loss and for enhancement of exercise performance)

INDEX TERM:

75847-73-3, Enalapril 114798-26-4, Losartan

ROLE: BAC (Biological activity or effector, except adverse);

INDEX TERM: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
sympathetic nervous system activity-reducing agents for  
treatment of disease- or age-related wt. loss and for  
enhancement of exercise performance)  
51-41-2, Noradrenaline 51-43-4, Epinephrine 11128-99-7,  
Angiotensin II 123626-67-5, Endothelin 1  
ROLE: BOC (Biological occurrence); BIOL (Biological study);  
OCCU (Occurrence)  
(sympathetic nervous system activity-reducing agents for  
treatment of disease- or age-related wt. loss and for  
enhancement of exercise performance)

## REFERENCE 5

ACCESSION NUMBER: 132:117958 CA  
TITLE: Use of biogenic estrogen sulfamates for hormone  
replacement therapy  
INVENTOR(S): Elger, Walter; Lahteenmaki, Pekka; Lehtinen, Matti;  
Reddersen, Gudrun; Zimmermann, Holger; Oettel,  
Michael; Schwarz, Sigfrid  
PATENT ASSIGNEE(S): Jenapharm G.m.b.H & Co. K.-G., Germany  
SOURCE: PCT Int. Appl., 33 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
INT. PATENT CLASSIF.:  
MAIN: A61K031-565  
CLASSIFICATION: 2-4 (Mammalian Hormones)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000006175	A1	20000210	WO 1999-DE1496	19990513
W:	AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 19834931	A1	20000224	DE 1998-19834931	19980728
AU 9951481	A1	20000221	AU 1999-51481	19990513
PRIORITY APPLN. INFO.:			DE 1998-19834931	19980728
			WO 1999-DE1496	19990513

## ABSTRACT:

The invention relates to the use of biogenic estrogen sulfamates for the oral discontinuous application for hormone replacement therapy (HRT). The discontinuous administration takes place in intervals ranging from 2 to 40 days. The invention also provides the addnl. application of gestagens, preferably continuously in the form of an implant or in the form of an intrauterine releasing system (IUD). Estrone sulfamate, estradiol sulfamate, or an N-acyl sulfamate of estrone, estradiol or estriol having up to 7 carbon atoms in the acyl chain, or a combination comprised of two or more of the active ingredients, are used as biogenic estrogen sulfamates.

SUPPL. TERM: biogenic estrogen sulfamate hormone replacement therapy  
INDEX TERM: Hormone replacement therapy  
(biogenic estrogen sulfamates for hormone replacement  
therapy)  
INDEX TERM: Estrogens  
Progesterogens  
ROLE: BAC (Biological activity or effector; except adverse);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(biogenic estrogen sulfamates for hormone replacement

INDEX TERM: Dr [redacted] delivery systems  
(implants; biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: Contraceptives  
(intrauterine; biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: Drug delivery systems  
(oral; biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: Menopause  
(postmenopause; biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: Amides, biological studies  
Sulfates, biological studies

ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (sulfamates; biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: 979-32-8, Estradiol valerate  
ROLE: BAC (Biological activity or effector, except adverse); BIOL (Biological study)  
(biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: 50-27-1D, Estriol, N-acylsulfamate derivs. 50-28-2D, Estradiol, N-acylsulfamate derivs. 53-16-7D, Estrone, N-acylsulfamate derivs. 68-22-4, Norethisterone

71-58-9,  
Medroxyprogesterone acetate 302-22-7, Chlormadinone acetate 427-51-0, Cyproterone acetate 797-63-7, Levonorgestrel 3562-63-8, Megestrol 54024-22-5, Desogestrel 65928-58-7, Dienogest 67392-87-4, Drospirenone 148672-09-7 172377-52-5 175219-34-8

ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (biogenic estrogen sulfamates for hormone replacement therapy)

INDEX TERM: 50-28-2, Estradiol, biological studies 53-16-7, Estrone, biological studies 481-97-0, Estrone sulfate

ROLE: BPR (Biological process); BIOL (Biological study); PROC (Process)  
(biogenic estrogen sulfamates for hormone replacement therapy)

REFERENCE COUNT: 5  
(1) Elger, W; EXPERT OPINION INVEST DRUGS 1988, V7(4), P575  
(2) Elger, W; JOURNAL OF STEROID BIOCHEMISTRY AND MOLECULAR BIOLOGY 1995, V55(3-4), P395 MEDLINE  
(3) Leiras Oy; WO 9501161 A 1995  
(4) Michael, O; US 5633242 A 1997  
(5) Schering Ag; WO 9733589 A 1997

## REFERENCE 6

ACCESSION NUMBER: 131:83108 CA

TITLE: Progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and their inhibitor in a model for long-term contraceptive effects

AUTHOR(S): Hampton, A. L.; Nie, G.; Salamonsen, L. A.

CORPORATE SOURCE: Prince Henry's Institute of Medical Research, Clayton, 3168, Australia

SOURCE: Mol. Hum. Reprod. (1999), 5(4), 365-371

CODEN: MHREFD; ISSN: 1360-9947

PUBLISHER:  
DOCUMENT TYPE:  
LANGUAGE:  
CLASSIFICATION:

Oxford University Press  
Journal  
English  
2-3 (Mammalian Hormones)

ABSTRACT:

Matrix metalloproteinases (MMPs) and their tissue inhibitors (TIMPs) are involved in normal menstruation while MMP-1 and MMP-3 prodn. by human endometrial stromal cells (HESCs) is repressed in vitro by progesterone. The authors postulated that the repression by synthetic progestins of MMP prodn. from HESCs may not be fully maintained in the long term, and that this may account for the disturbed uterine bleeding patterns in women using long-acting progestins. In this study, a long-term HESC culture model was established to compare the effects of natural progesterone and a no. of synthetic analogs (ORG2058 medroxyprogesterone acetate, norethindrone acetate, levonorgestrel and drospirenone) on the prodn. by these cells of MMP-1 and MMP-3 and TIMP-1. Zymog. and enzyme-linked immunosorbent anal. of culture medium after 2 wk showed that both natural progesterone and all of the synthetic progestins tested maintained a significant inhibition of MMP-1 and MMP-3 prodn. Prodnn. of mRNA for MMP-1 and MMP-3 was also suppressed by all progestins, while TIMP prodn. was increased. Thus, menstrual bleeding disturbances which occur during the use of synthetic progestins is not likely to result directly from changes in the effect of long-term progestin exposure on MMP-1 or MMP-3 or TIMP-1 prodn. by HESCs.

SUPPL. TERM: progesterone matrix metalloproteinase menstruation bleeding endometrium stroma contraceptive female

INDEX TERM: Menstrual disorder  
(bleeding; progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and inhibitor TIMP in a model for long term contraceptive effects)

INDEX TERM: Uterus  
(endometrium, stroma; progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and inhibitor TIMP in a model for long term contraceptive effects)

INDEX TERM: Contraceptives  
(female; progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and inhibitor TIMP in a model for long term contraceptive effects)

INDEX TERM: Progestogens  
ROLE: BAC (Biological activity or effector, except adverse); BIOL (Biological study)  
(progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and inhibitor TIMP in a model for long term contraceptive effects)

metalloproteinase-3  
and inhibitor TIMP in a model for long term contraceptive effects).

INDEX TERM: 51-98-9, Norethindrone acetate 57-83-0, Progesterone, biological studies 71-58-9, Medroxyprogesterone acetate 797-63-7, Levonorgestrel 24320-06-7, Org2058

67392-87-4,  
Drospirenone  
ROLE: BAC (Biological activity or effector, except adverse); BIOL (Biological study)  
(progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix metalloproteinase-3 and inhibitor TIMP in a model for long term contraceptive effects)

metalloproteinase-3  
and inhibitor TIMP in a model for long term contraceptive

INDEX TERM: 90-12-1, MMP-1 79955-99-0, MMP-1 140208-24-8, TIMP-1  
ROLE: BPR (Biological process); MFM (Metabolic formation);

BIOL

metalloproteinase-3

contraceptive

REFERENCE COUNT: 27

(effects)

(Biological study); FORM (Formation, nonpreparative); PROC (Process)  
(progesterone analogs similarly modulate endometrial matrix metalloproteinase-1 and matrix and inhibitor TIMP in a model for long term effects)

- (1) Bruner, K; Proc Natl Acad Sci USA 1995, V92, P7362 CAPLUS
- (2) Clark, D; Hum Reprod 1996, V11, P1438 MEDLINE
- (3) Critchley, H; Hum Reprod 1993, V8, P1632 CAPLUS
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- (5) Hampton, A; Biol Reprod 1995, V53, P302 CAPLUS
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- (15) Rawdanowicz, T; J Clin Endocrinol Metab 1994, V79, CAPLUS
- (16) Riedy, M; BioTechniques 1995, V18, P70 CAPLUS
- (17) Salamonsen, L; J Clin Endocrinol Metab 1997, V82, CAPLUS
- (18) Salamonsen, L; Reprod Med Rev 1996, V5, P185
- (19) Schatz, F; J Clin Endocrinol Metab 1994, V78, P1467 CAPLUS
- (20) Schneikert, J; J Biol Chem 1996, V271, P23907 CAPLUS
- (21) Seibert, P; BioTechniques 1993, V14, P244
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- (23) Vincent, A; Proc Soc Gynecol Invest 1998
- (24) Walther, W; BioTechniques 1994, V17, P674 CAPLUS
- (25) Wang, H; Mol Hum Reprod 1998, V4, P407 CAPLUS
- (26) Wilson, C; Mol Cell Endocrinol 1996, V120, P51 CAPLUS
- (27) Zhang, J; Biol Reprod 1999, V59, P693

REFERENCE 7

ACCESSION NUMBER: 130:347882 CA  
TITLE: Oral contraceptives containing antiestrogen and progestin  
INVENTOR(S): Gast, Michael Jay; Miller, Christopher Paul  
PATENT ASSIGNEE(S): American Home Products Corporation, USA  
SOURCE: PCT Int. Appl., 22 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent

LANGUAGE: English  
 INT. PATENT CLASSIF.: A61K031-00  
 MAIN: A61K031-00  
 CLASSIFICATION: 2-3 (Mammalian Hormones)  
 Section cross-reference(s): 63  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9924027	A2	19990520	WO 1998-US23427	19981104
WO 9924027	A3	19990715		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9913031	A1	19990531	AU 1999-13031	19981104
BR 9813982	A	20000926	BR 1998-13982	19981104
EP 1051179	A2	20001115	EP 1998-956525	19981104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV, FI, RO				
NO 2000002167	A	20000628	NO 2000-2167	20000427
PRIORITY APPLN. INFO.:				
US 1997-965083 19971106				
US 1997-66089 19971117				
US 1997-66090 19971117				
US 1997-66095 19971117				
US 1997-66100 19971117				
WO 1998-US23427 19981104				

#### ABSTRACT:

This invention provides a method of providing contraception which comprises administering to a female of child-bearing age a combination of a non-uterotrophic anti-estrogen and a progestin for 28 days/28-day menstrual cycle. When 2-(4-hydroxyphenyl)-3-methyl-1-[4-(2-(azepan-1-yl)ethoxy)benzyl]-1H-indol-5-ol (I) and levonorgestrel are administered according to a 28-day monophasic regimen, the dosage with I at 2 mg and levonorgestrel at 90 .mu.g is preferred.

SUPPL. TERM: contraceptive oral antiestrogen progestin  
 INDEX TERM: Oral contraceptives  
 Ovarian cycle  
 (oral contraceptives contg. antiestrogen and progestin)  
 INDEX TERM: Antiestrogens  
 Progestins  
 ROLE: BAC (Biological activity or effector, except adverse);  
 THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (oral contraceptives contg. antiestrogen and progestin)  
 INDEX TERM: 51-98-9, Norethisterone acetate 68-22-4, Norethindrone  
 427-51-0, Cyproterone acetate 797-63-7, Levonorgestrel  
 1845-11-0, Nafoxidine 6533-00-2, Norgestrel 35189-28-7,  
 Norgestimate 54024-22-5, Desogestrel 54048-10-1,  
 3-KetoDesogestrel 60282-87-3, Gestodene 65928-58-7,  
 Dienogest 67392-87-4, Drosipренone 74513-62-5,  
 Trimegestone 78994-23-7, Levomeleoxifene 82413-20-5,  
 Droloxfene 84449-90-1, Raloxifene 89778-26-7,  
 Toremifene 105149-04-0, Osaterone 115767-74-3, TAT-59  
 116057-75-1, Idoxifene 129453-61-8, ICI-182780

165536-41

-4, MDL-103323 182133-25-1, Benzo[b]thiophene-6-ol,  
 2-(4-methoxyphenyl)-3-[4-[2-(1-piperidinyl)ethoxy]phenoxy]-  
 182133-27-3 182167-03-9, EM-800 190791-29-8, CP-336156

198[REDACTED]-0-18-1	198480-19-2	198480-22-5	198480-21-6
198[REDACTED]-0-30-7	198480-31-8	198480-[REDACTED]-9	198480-33-0
198480-34-1	198480-35-2	198480-36-3	198480-37-4
198480-38-5	198480-39-6	198480-41-0	198480-42-1
198480-43-2	198480-44-3	198480-45-4	198480-46-5
198480-47-6	198480-48-7	198480-49-8	198480-50-1
198480-51-2	198480-52-3	198480-53-4	198480-54-5
198480-55-6	198480-56-7	198480-74-9	198480-75-0
198480-76-1	198480-77-2	198480-78-3	198480-79-4
198480-80-7	198480-83-0	198480-84-1	198480-85-2
198480-86-3	198480-87-4	198480-88-5	198480-89-6
198480-90-9	198480-91-0	198480-92-1	198480-93-2
198480-94-3	198480-95-4	198480-96-5	198480-97-6
198481-17-3	198481-18-4	198481-32-2	198481-38-8
198481-39-9	224801-40-5		

ROLE: BAC (Biological activity or effector, except adverse);  
 THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (oral contraceptives contg. antiestrogen and progestin)

REFERENCE 8

ACCESSION NUMBER: 130:242332 CA  
 TITLE: Oral contraceptive preparation having a first phase comprising progestin/estrogen and a second phase comprising progestin  
 INVENTOR(S): Gast, Michael Jay  
 PATENT ASSIGNEE(S): American Home Products Corporation, USA  
 SOURCE: PCT Int. Appl., 16 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 INT. PATENT CLASSIF.:  
     MAIN: A61K031-56  
 CLASSIFICATION: 63-6 (Pharmaceuticals)  
     Section cross-reference(s): 2  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913882	A1	19990325	WO 1998-US18850	19980909
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9892286	A1	19990405	AU 1998-92286	19980909
EP 1011681	A1	20000628	EP 1998-944837	19980909
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV, FI, RO				
PRIORITY APPLN. INFO.:			US 1997-928530	19970912
			WO 1998-US18850	19980909

ABSTRACT:  
 A method of contraception comprises administering to a female of child-bearing age for 28 days per menstrual cycle a combination of a progestin at a daily dosage equiv. to 30-150 .mu.g levonorgestrel and an estrogen at a daily dosage equiv. to 10-20 .mu.g ethynodiol dienoate for 23-25 days beginning on day 1 of the menstrual cycle, followed by administering a progestin at a daily dosage equiv. to 10-100 .mu.g levonorgestrel for 3-5 days. This regimen provides effective contraception, good cycle control, and minimal side effects while greatly

reducing the total contraceptive steroid administered in a 28-day cycle. A suitable regimen comprises administration of levonorgestrel 75 and ethynodiol diol 15 .mu.g/day for the first 24 cycle days, followed by levonorgestrel 37.5 .mu.g/day for the last 4 days.

SUPPL. TERM: oral contraceptive progestin estrogen; levonorgestrel ethynodiol diol oral contraceptive  
INDEX TERM: Oral contraceptives  
(oral contraceptive prepns. with first phase comprising progestin/estrogen and second phase comprising progestin)  
INDEX TERM: Conjugated estrogens  
Estrogens  
Progestins  
ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral contraceptive prepns. with first phase comprising progestin/estrogen and second phase comprising progestin)  
INDEX TERM: 50-28-2, 17.beta.-Estradiol, biological studies 51-98-9,  
Norethisterone acetate 53-16-7, Estrone, biological studies 57-63-6, Ethynodiol diol 68-22-4,  
Norethindrone 72-33-3, Mestranol 427-51-0, Cyproterone acetate 797-63-7, Levonorgestrel 6533-00-2, Norgestrel 35189-28-7, Norgestimate 54024-22-5, Desogestrel 54048-10-1, 3-Ketodesogestrel 60282-87-3, Gestodene 65928-58-7, Dienogest 67392-87-4, Drospirenone 74513-62-5, Trimegestone 105149-04-0, Osaterone  
ROLE: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral contraceptive prepns. with first phase comprising progestin/estrogen and second phase comprising progestin)  
INDEX TERM: 1  
(1) Akzo, N; EP 0368373 A 1990

REFERENCE 9

ACCESSION NUMBER: 130:100684 CA  
TITLE: Oral contraceptive comprising progestin/estrogen combination  
INVENTOR(S): Gast, Michael J.  
PATENT ASSIGNEE(S): American Home Products Corporation, USA  
SOURCE: U.S., 8 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
INT. PATENT CLASSIF.:  
MAIN: A61K009-20  
SECONDARY: A61K031-56  
US PATENT CLASSIF.: 424464000  
CLASSIFICATION: 63-6 (Pharmaceuticals)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
US 5858405	A	19990112	US 1997-887162	19970702

ABSTRACT:

A bridged triphasic combination progestin/estrogen oral contraceptive regimen is provided comprising the administration of a contraceptive progestin/estrogen combination for 23-25 days consecutive days beginning on the first day of menses, followed by the administration of an estrogen for 3-5 days following

the administration of the estrogen/progestin combination so that the total period of administration is 28 days per 28 day cycle. Particularly preferred progestins of this invention are trimegestone, dienogest, and drospirenone. A tablet contained trimegestone 125, ethynodiol diacetate 15, microcrystalline cellulose, lactose, polacillin potassium, magnesium stearate, Opadry pink, polyethylene glycol, and water q.s. for a tablet.

SUPPL. TERM: oral contraceptive tablet progestin estrogen; trimegestone ethynodiol oral contraceptive tablet

INDEX TERM: Oral contraceptives  
(oral contraceptive comprising progestin/estrogen combination)

INDEX TERM: Conjugated estrogens  
Estrogens  
ROLE: BAC (Biological activity or effector, except adverse);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral contraceptive comprising progestin/estrogen combination)

INDEX TERM: 50-28-2, .beta. Estradiol, biological studies 57-63-6,  
Ethynodiol 57-83-0, Progestin, biological studies  
72-33-3, Mestranol 65928-58-7, Dienogest 67392-87-4,  
Drospirenone. 74513-62-5, Trimegestone  
ROLE: BAC (Biological activity or effector, except adverse);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral contraceptive comprising progestin/estrogen combination)

REFERENCE COUNT: 23  
(1) Anon; EP 0253607 1988 CAPLUS  
(2) Anon; DE 4104385 1992 CAPLUS  
(3) Anon; EP 0628312 1994  
(4) Anon; DE 4313926 1994 CAPLUS  
(5) Anon; WO 9517194 1995  
(6) Anon; WO 9526730 1995  
(7) Anon; EP 0696454 1996  
(8) Bennink; US 5418228 1995  
(9) Bergink; US 5262408 1993  
(10) Boissonneault; US 4962098 1990 CAPLUS  
(11) Coussediere; US 4273771 1981  
(12) Edgren; US 4390531 1983  
(13) Ehrlich; US 5280023 1994  
(14) Gast; US 5747480 1998 CAPLUS  
(15) Lachnit-Fixson; US 3957982 1976  
(16) Lachnit-Fixson; US 3969502 1976 CAPLUS  
(17) Lachnit-Fixson; US 4621079 1986  
(18) Pasquale; US 4530839 1985 CAPLUS  
(19) Pasquale; US 4628051 1986  
(20) Pasquale; US 4921843 1990 CAPLUS  
(21) Ponsold; US 4248790 1981  
(22) Sartoretto; Clinica e Terapeutica 1974, V3, P399  
(23) Spona; US 5583129 1996

#### REFERENCE 10

ACCESSION NUMBER: 129:77031 CA  
TITLE: Therapeutic gestagens for premenstrual dysphoric disorder  
INVENTOR(S): Nashed, Norman  
PATENT ASSIGNEE(S): Schering A.-G., Germany  
SOURCE: Ger. Offen., 4 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
INT. PATENT CLASSIF.:  
MAIN: A61K031-57

SECONDARY: A61K031-565  
CLASSIFICATION: 2-4 (Mammalian Hormones)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19654609	A1	19980625	DE 1996-19654609	19961220
WO 9827929	A2	19980702	WO 1997-DE3032	19971222
WO 9827929	A3	19981105		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9859810	A1	19980717	AU 1998-59810	19971222
PRIORITY APPLN. INFO.: DE 1996-19654609 19961220 WO 1997-DE3032 19971222				

ABSTRACT:

Gestagens such as drospirenone, cyproterone acetate, and dienogest (optionally in combination with natural or synthetic estrogens such as estradiol or ethynodiol) are useful in prepn. of medications for treatment of premenstrual dysphoric disorder, possibly owing to their antiandrogenic action.

Thus, women with premenstrual dysphoric disorder, treated daily with 3 mg drospirenone and 30 .mu.g ethynodiol orally on days 1-21 of the menstrual cycle for 4-6 cycles, showed a lessening of symptoms related to mood, appetite, sleep, etc.

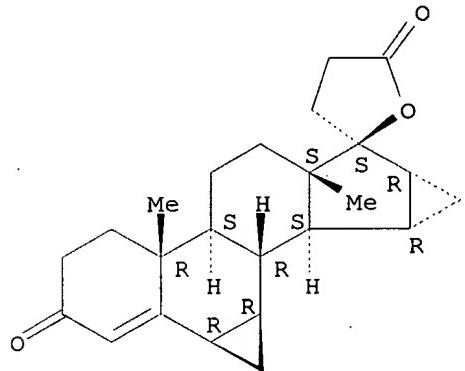
SUPPL. TERM: premenstrual dysphoria treatment gestagen  
INDEX TERM: Premenstrual syndrome  
(therapeutic gestagens for premenstrual dysphoric disorder)  
INDEX TERM: Estrogens  
Progestins  
ROLE: BAC (Biological activity or effector, except adverse);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(therapeutic gestagens for premenstrual dysphoric disorder)  
INDEX TERM: 50-28-2, Estradiol, biological studies. 50-28-2D,  
Estradiol, esters 57-63-6, Ethynodiol 427-51-0,  
Cyproterone acetate 979-32-8, Estradiol valerate  
65928-58-7, Dienogest 67392-87-4, Drospirenone  
ROLE: BAC (Biological activity or effector, except adverse);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(therapeutic gestagens for premenstrual dysphoric disorder)

L2 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2000 ACS  
RN 67372-75-2 REGISTRY  
CN Spiro[17H-dicyclopenta[6,7:15,16]cyclopenta[a]phenanthrene-17,2' (5'H)-furan]-3,5' (2H)-dione, 1,3',4',6,7,8,9,10,11,12,13,14,15,16,20,21-hexadecahydro-10,13-dimethyl-,  
[6R-(6.alpha.,7.alpha.,8.beta.,9.alpha.,10.  
beta.,13.beta.,14.alpha.,15.beta.,16.beta.,17.beta.)]- (9CI) (CA INDEX  
NAME)  
FS STEREOSEARCH  
MF C24 H30 O3  
LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

## Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Ring Identifier	RID Occurrence
EA	ES	SZ	RF	RID	Count
C3-C3-C4O-C5-	C3-C3-OC4-C5-	3-3-5-5-6-6-	C220	21803.1.1	1
C6-C6-C6	C6-C6-C6	6			

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

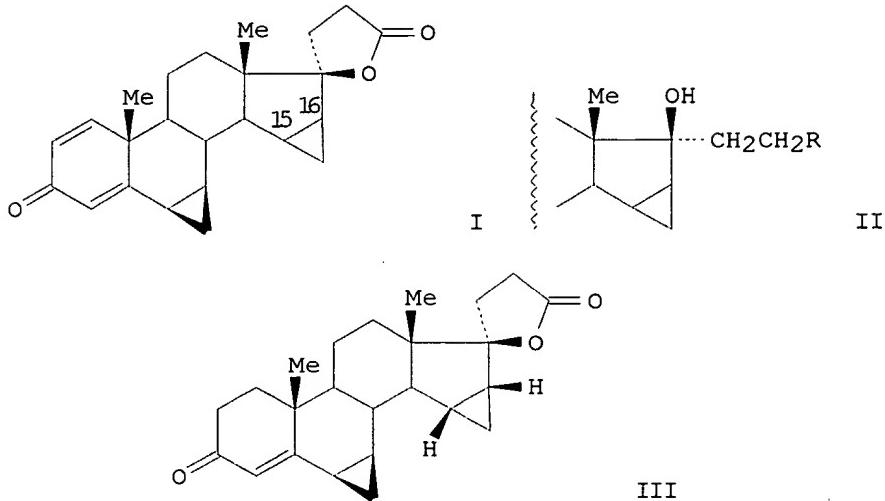
## REFERENCE 1

ACCESSION NUMBER: 95:25402 CA  
 TITLE: 6. $\beta$ ., 7. $\beta$ .;  
 15,16-Dimethylene-1,4-androstadien-3-ones  
 INVENTOR(S): Wiechert, Rudolf; Bittler, Dieter; Kerb, Ulrich;  
 Prezewowsky, Klaus; Casals-Stenzel, Jorge; Losert,  
 Wolfgang  
 PATENT ASSIGNEE(S): Schering A.-G., Fed. Rep. Ger.  
 SOURCE: Ger. Offen., 11 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 INT. PATENT CLASSIF.: C07J053-00; C07J021-00; A61K031-565  
 CLASSIFICATION: 32-5 (Steroids)  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2922500	A1	19801204	DE 1979-2922500	19790531
EP 19690	A1	19801210	EP 1980-101383	19800317
EP 19690	B1	19820421		
R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AT 880	E	19820515	AT 1980-101383	19800317
SU 873890	A3	19811015	SU 1980-2907605	19800411
AU 8058745	A1	19801204	AU 1980-58745	19800526
AU 531057	B2	19830811		
JP 55162799	A2	19801218	JP 1980-69079	19800526
JP 02014360	B4	19900406		

CS 214712		19820528	CS 1980-371	19800527
ES 491916		19801216	ES 1980-491	19800528
US 4291029	A	19810922	US 1980-154194	19800529
DD 151172	C	19811008	DD 1980-221451	19800529
IL 60185	A1	19830615	IL 1980-60185	19800529
DK 8002347	A	19801201	DK 1980-2347	19800530
DK 145140	B	19820913		
DK 145140	C	19830221		
CA 1134814	A1	19821102	CA 1980-353151	19800530
HU 24323	O	19830128	HU 1980-1372	19800530
HU 181714	B	19831128		
HU 30744	O	19840328	HU 1982-3323	19800530
HU 187419	B	19860128		
PRIORITY APPLN. INFO.:			DE 1979-2922500	19790531
			EP 1980-101383	19800317

GRAPHIC IMAGE:



ABSTRACT:

Dimethyleneandrostanediene I and II ( $R = \text{CH}_2\text{OH}, \text{CO}_2\text{K}$ ) were prep'd. and they possessed diuretic activity (no data). Thus, treatment of androstene lactone III with  $\text{SeO}_2$  in  $\text{Me}_3\text{COH}$  contg.  $\text{HOAc}$  gave 15. $\alpha$ .,16. $\alpha$ -I. Dichlorodicyanobenzoquinone was also used as a dehydrogenation reagent.

SUPPL. TERM:                     dimethyleneandrostadienone prep'n diuretic; dehydrogenation  
                                   dimethyleneandrostenedione; androstadienone dimethylene prep'n  
                                   diuretic

INDEX TERM:                     Diuretics  
                                   (dimethyleneandrostadienone spiro lactones)

INDEX TERM:                     Dehydrogenation  
                                   (of dimethyleneandrostenedones)

INDEX TERM:                     Steroids, preparation  
                                   ROLE: SPN (Synthetic preparation); PREP (Preparation)  
                                   (prepn. of, of dimethyleneandrostanediene)

INDEX TERM:                     67372-75-2    67392-87-4    69651-50-9  
                                   ROLE: RCT (Reactant)  
                                   (dehydrogenation of)

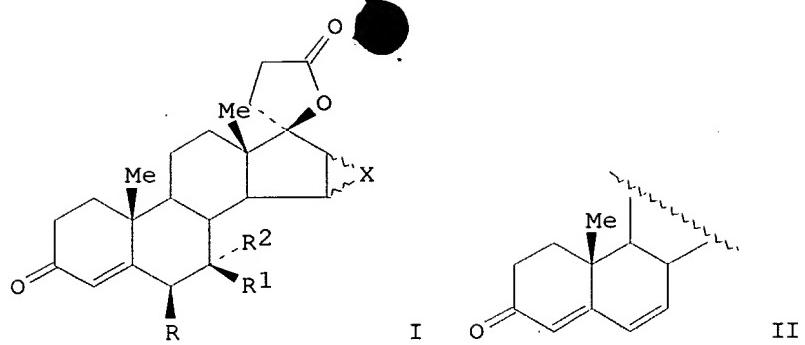
INDEX TERM:                     74220-07-8P  
                                   ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
                                   (Preparation)  
                                   (prepn. and hydrolysis of)

INDEX TERM:                     77579-18-1P    77593-18-1P    77646-30-1P  
                                   ROLE: SPN (Synthetic preparation); PREP (Preparation)  
                                   (prepn. of)

ACCESSION NUMBER: 89:110129 CA  
 TITLE: Spirolactones  
 INVENTOR(S): Wiechert, Rudolf; Bittler, Dieter; Kerb, Ulrich;  
 Vasals-Stenzel, Jorge; Losert, Wolfgang  
 PATENT ASSIGNEE(S): Schering A.-G., Ger.  
 SOURCE: Ger. Offen., 26 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 INT. PATENT CLASSIF.: C07J019-00  
 CLASSIFICATION: 32-6 (Steroids)  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2652761	A1	19780518	DE 1976-2652761	19761116
DE 2652761	C2	19851121		
NL 7711946	A	19780518	NL 1977-11946	19771031
SU 695560	D	19791030	SU 1977-2537651	19771103
CH 631463	A	19820813	CH 1977-13616	19771108
AU 7730509	A1	19790517	AU 1977-30509	19771109
AU 512611	B2	19801016		
IL 53353	A1	19820430	IL 1977-53353	19771110
US 4129564	A	19781212	US 1977-850524	19771111
DD 132968	C	19781122	DD 1977-202077	19771114
DD 132968	B3	19910328		
SE 7712891	A	19780517	SE 1977-12891	19771115
SE 436425	B	19841210		
SE 436425	C	19850321		
GB 1550568	A	19790815	GB 1977-47440	19771115
AT 7708155	A	19791015	AT 1977-8155	19771115
AT 356827	B	19800527		
HU 174983	P	19800428	HU 1977-SC630	19771115
BE 860877	A1	19780516	BE 1977-182661	19771116
DK 7705080	A	19780517	DK 1977-5080	19771116
DK 141967	B	19800728		
DK 141967	C	19801208		
JP 53063373	A2	19780606	JP 1977-137758	19771116
JP 61056240	B4	19861201		
FR 2370755	A1	19780609	FR 1977-34434	19771116
FR 2370755	B1	19800606		
ES 464193	A1	19780901	ES 1977-464193	19771116
CS 194823	P	19791231	CS 1977-7551	19771116
CA 1092094	A1	19801223	CA 1977-291065	19771116
DK 7804542	A	19781012	DK 1978-4542	19781012
DK 142951	B	19810302		
DK 142951	C	19810907		
SU 743582	D	19800625	SU 1979-2706061	19790111
AT 7904289	A	19810815	AT 1979-4289	19790618
AT 366391	B	19820413		
CH 632774	A	19821029	CH 1982-793	19820209
JP 61218595	A2	19860929	JP 1985-212779	19850927
JP 02042840	B4	19900926		
PRIORITY APPLN. INFO.:			DE 1976-2652761	19761116
			CH 1977-13616	19771108
			AT 1977-8155	19771115
			DK 1977-5080	19771116

GRAPHIC IMAGE:



**ABSTRACT:**

Diuretic (no data) spiroandrostenefuranes I [RR<sub>1</sub> = CH<sub>2</sub>, R<sub>2</sub> = H; R = R<sub>1</sub> = H, R<sub>2</sub> = R<sub>3</sub>COS (R<sub>3</sub> = C1-5 alkyl); X = 15. $\alpha$ .16. $\alpha$ .-CH<sub>2</sub>, 15. $\beta$ .16. $\beta$ .-CH<sub>2</sub>, bond] (9 compds.) were prep'd. a) by treatment of II with R<sub>3</sub>COSH in a protic solvent and b.) methylenation of II by Me<sub>3</sub>S+(O) I--NaH in aprotic solvent. Thus, 1.5 g II (X = bond) and 1.5 mL AcSH in MeOH refluxed 2 h gave 1.05 g I (X = bond, R = R<sub>1</sub> = H, R<sub>2</sub> = AcS). To a soln. of 4.13 g Me<sub>3</sub>S+(O) I- in Me<sub>2</sub>SO contg. 512 mg 80% NaH was added 3.09 g II (X = bond) and the mixt. refluxed 24 h to give 520 mg I (X = bond, RR<sub>1</sub> = CH<sub>2</sub>, R<sub>2</sub> = H).

SUPPL. TERM: methylenation spiroandrostenefuranone; androstene  
spirofuran; furanone spiroandrostene;  
methylenespiroandrostenefuran prepn diuretic; thioacetylation  
spiroandrostenefuran

INDEX TERM: Methylenation  
(of spiroandrostanedienefuranes)

INDEX TERM: Diuretics  
(spiroandrostenefuranes)

INDEX TERM: Steroids, preparation  
ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(spiro[17,2'-furan], 3,5'-dioxo-4-unsatd., prepn. of)  
67372-56-9P 67372-63-8P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and bromination of)  
67372-59-2P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and cyclization of)  
55534-25-3P 67372-57-0P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and dehydrobromination of)  
67372-68-3P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and dehydrogenation of)  
67372-55-8P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and enolization-alkylation of)  
67372-62-7P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and enolization-ethylation of)  
67372-52-5P 67372-66-1P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and hydrolysis-cyclization of)

INDEX TERM: 67372-54-7P  
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and hydrolysis-oxidn. of)  
67372-53-6P 67372-60-5P 67372-61-6P 67372-67-2P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and oxidn. of)  
67372-58-1P 67372-64-9P 67372-69-4P

INDEX TERM: ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and reactions of)  
67372-70-7P 67372-71-8P 67372-72-9P 67372-73-0P  
67372-74-1P 67372-75-2P 67372-76-3P 67392-86-3P  
67392-87-4P

INDEX TERM: ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)  
17921-63-0 38002-07-2 67372-65-0

INDEX TERM: ROLE: RCT (Reactant)  
(reaction of, with bromodimethoxypropane)  
36255-44-4

INDEX TERM: ROLE: RCT (Reactant)  
(reaction of, with hydroxyandrostadienone)  
507-09-5, reactions 1892-31-5

INDEX TERM: ROLE: RCT (Reactant)  
(reaction of, with spiroandrostanefurans)